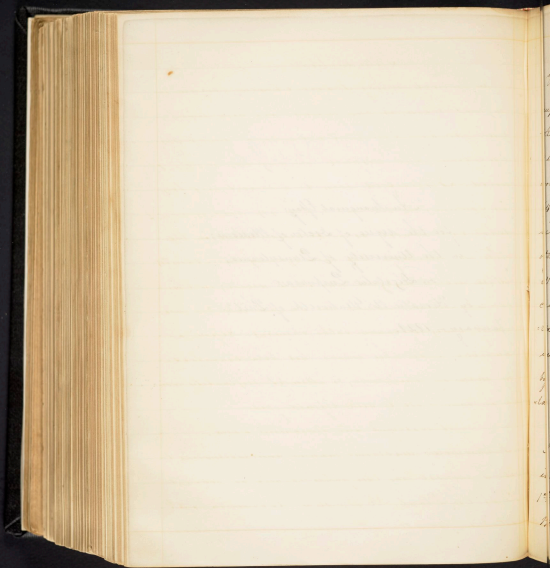


An Inaugural Essay:
for the degree of Doctor of Medicine;
in the University of Pennsylvania;
on *Sigillatus Lupinus?*

by Horatio N. Wentworth of Phil^a.

January - 1828.
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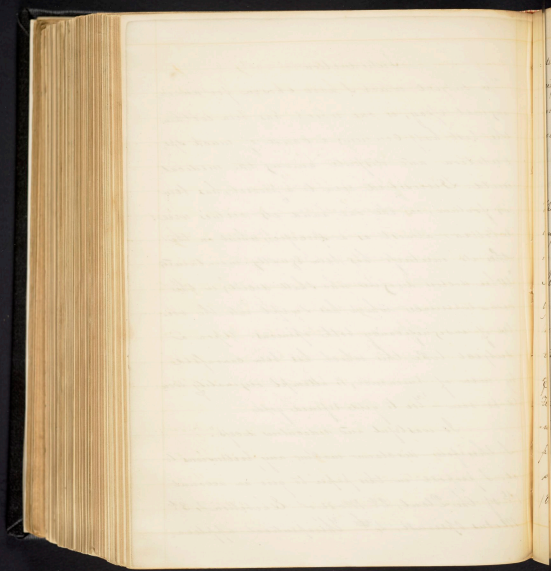


Introduction

The subject which I have chosen for an inaugural essay, is one which has been within the last half century, a cause of much speculation and dispute among the medical world. Dioscorid's corn to a proverb, has been its fortune; on the one hand its virtues were extolled almost as a specific, whilst on the other its inertness has been equally maintained. When doctors disagree who shall decide; in this case - experience which has swept into the vortex of insignificance both opinions. Upon a subject like this which has been canvassed by men of eminence, to attempt originality would be vain - "Too to gild refined gold."

It is wasteful and ridiculous scope.

I therefore disclaim making any pretensions to it. I propose in this paper to give an account 1st of the Plant, 2^d Mode of Exhibition, 3^d Modus Operandi, & 4th Therapeutical applica-



tion; these remarks must consequently be very
brief, as a full account of any one of the divisions
would swell this paper to a volume incompatible
with my object.

Division 1.st

Description of the Plant:

This is the *Digitalis Purpurea* of Linnaeus, it be-
longs to the second order of the fourteenth class,
in the *Didynamia Angiospermia* of Linnaeus.

It is a native of Europe, but may be successfully
cultivated in any part of the United States,
whether it loses any of its virtues by cultiva-
tion is a subject upon which much variety
of opinion prevails; it is the opinion of Doctor
Hamilton that it does not. This plant is a bi-
ennial and delights in dry, gravelly, sandy soil;
particularly upon sloping grounds. It bears
some resemblance to the common wall-flower
(*Barbarea*). It flowers from the middle of June

[Faint, illegible handwriting on lined paper]

to the end of July; the roots, stems, leaves and
flowers have a peculiar herbaceous, mucous, and
acid taste. Every part of the plant possesses simi-
lar properties, but the leaves are generally pre-
ferred and are said to be by far the more ef-
ficacious; they are slightly serrated, wrinkled,
long, egg-shaped, of a green colour above, but
pale underneath. Chemical composition - Char-
acter matter; and green resin in which its nar-
cotic properties reside. Solubility both water
and alcohol extract its virtues. Incompati-
ble substances its solutions are precipitated
by Chloride of Mercury, Nitrate of Silver, and by
an infusion of yellow cinchona bark.

Division 24

Mode of Exhibition

It may be given in Substance, Tincture, In-
fusion, Decoction; and Extract. When we wish
the effects of a narcotic to be produced the

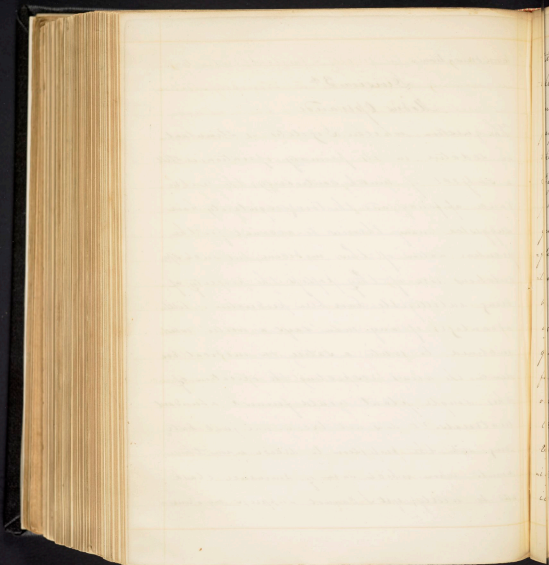
substance will be found preferable. When the
object is to diminish the velocity of the pulse,
or in cases where we wish it to be gradually
introduced into the system, the saturated tincture
as it contains "the virtues of the Fungus"
in a very manageable form is to be preferred.
When directed is demanded Withering, Hamilton,
and others of no less respectable authority,
recommend the Infusion - as it admits of easy
regulation in the dose according to the case,
strength of the patient, and the effects produced.
The decoction seems to have been little noticed by
authors; the mode of preparing it is one which
has a tendency to destroy many of its most ac-
tive properties rendering it comparatively inert
and causing much variability in the dose.
Of the extract I shall only remark that a
medicine whose largest dose scarcely ex-
ceeds three grains can stand in need of little

convulsion.

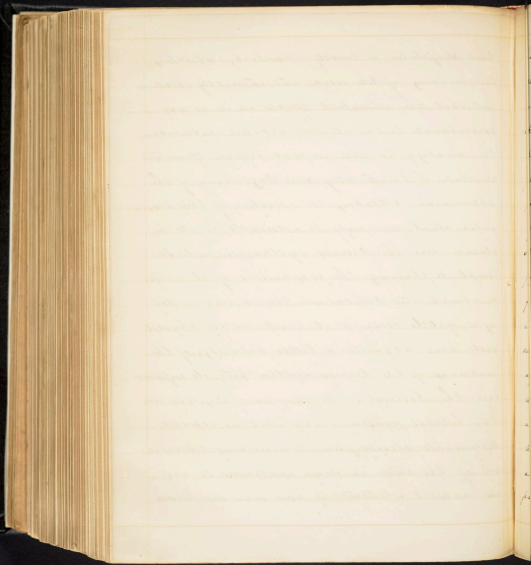
Division 3^d

Modus Operandi

The question whether *Digitalis* is stimulant or sedative in its primary operation, is still a subject of much controversy; the uncertainty of its efficacy, and the loss of singularity have suggested many theories to account for the peculiar action of this medicine, but such speculations even if they possess the property of being intelligible have been productive of little advantage; if any man says a writer is so inclined to write a satire on medical evidence, the views respecting the operation of this single plant would furnish abundant materials. It does not become me just satirizing into the proposition to decide upon those points upon which men of science clash and so widely; yet I cannot suppress my opinion



that Digitalis is directly stimulant; restricting
the meaning of the word, and indirectly sedative;
but that the stimulant effects are in no way
proportionate to the ultimate sedative influence—
the analogy in this respect between Opium and
Digitalis I think very striking. Many of the
phenomena attending the operation of this sin-
gular plant, can only be attributed to its in-
fluence over the Nervous System; for me to at-
tempt explaining the peculiarities of it would
be absurd and ridiculous. This is necessary for
ages yet to come, or at least untill physi-
cists have acquired a better knowledge of the
functions of the Nervous System and its influence
over the Arterial. The operation of Digitalis on
the Arterial System is very great as repeated
Experiments clearly prove—diminishing the velo-
city of the pulse in some instances to half
its natural standard, if any man says Divine



had expressed an opinion a few years ago that we should
discover a medicine capable of reducing the pulse
without danger from 120 in a minute to 75 or 80 at
the will of the practitioner, he would have been
ridiculed as a visionary; and he continues this
plant furnishes us the means of regulating the
pulse to our wish and of supporting a given state
of velocity as long as we judge proper. The
state of the pulse varies also according to the
position of the patient's body; this singularity was
first noticed by Dr. Bidard and published in 1847
in the Medical and Surgical Journal, this experi-
ment he first tried upon himself, having put his
system under its full effects; upon standing erect
his pulse beat 100, upon sitting down much slower,
and when lying on his back it fell to 40. this
he frequently repeated upon himself and others and
always attended with the same results; I have
paid much attention to this subject says Doctor

Hamilton without being able to convince myself
of the fact in question, but I believe the variation
in the pulse will rather be found to accompany
activity in general than to depend upon the par-
ticular influence of Digitalis: as a proof of it, he
relates a case in which as the patient advanced
in strength it entirely ceased. From its ex-
traordinary effects on the circulatory system, the
absorbent is called into play, and upon this
action many of its greatest medicinal effects
depends and especially its operation as a diuretic;
to strengthen this opinion - that Digitalis
does not specifically on the kidneys act, I
will quote the high authority of Doctor Chapman
whose opinion upon all subjects is equally
respected and admired - it seems says he
to be one of those diuretics that act directly
on the absorbent system having little or no re-
lation to the kidneys. Concluding my remarks on

the *Modus operandi* I will only add, that I think
Digitalis by diminishing the frequency of the Puls-
et and Arteris; consequently diminishes the
irritability of the system; increases the action
of the Absorbents; and the discharge by urine.

Division 4th

Therapeutical Application

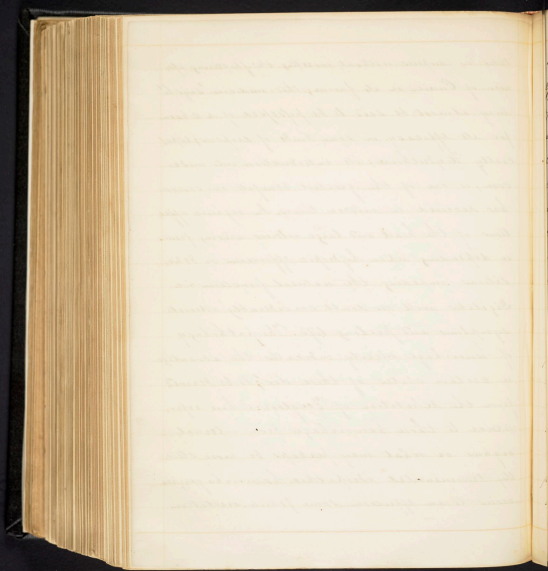
Preventing a priori from the operation of Digi-
talis upon the absorbents, its use in hydropic
affections would seem to be indicated;
at any rate, of all the drs. in which it has
been employed its reputation in dropsies
is the least disputed. The practice of pre-
scribing it in dropsical cases originated
with Withering; about the year 1775, he was
induced to employ it from having seen
it used as a domestic remedy. So high-
ly did Withering estimate its powers that
he says so far as the removal of the water

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will contribute to cure the patient, so much may be expected from Digitalis. This practice was soon made known and imitated by many and among the number the distinguished names of Boerhaave, Baker and Garriin stood conspicuous. The indiscriminate administration of this remedy in drops increased wif of the patient's pulse, symptoms &c. has had a tendency greatly to diminish its reputation. Withering says that in persons of tender fibre and great natural strength the medicine seldom succeeds, while on the contrary if the pulse is feeble or intermitting, the skin cold, it hardly ever fails to do good. The sacculata form of the disease excepta Digitalis may be prescribed in all the other varieties. On account of the diversity of opinion it is difficult to determine in what form of these dist Digitalis is found most efficacious; every practitioner has a greater predilection for it in

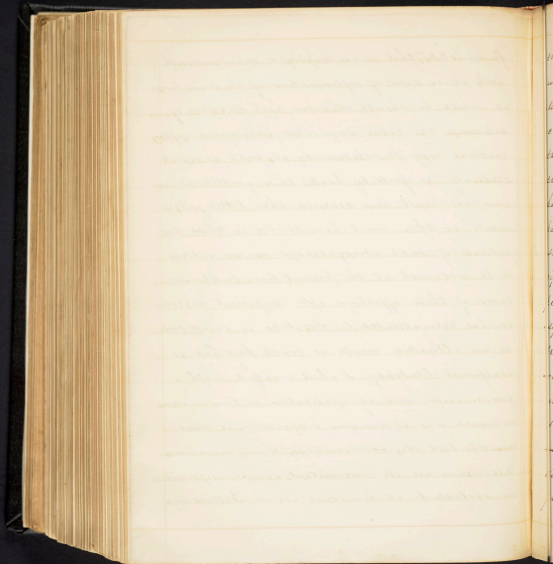
some one of its forms than in others; arising no doubt
from having seen cases of the one, more frequently than
the others. Hamilton strongly recommends it in
Hydrothorax not however condemning its utili-
tation in the other forms; he says that he has
never seen one case however far advanced; or
desperate, that was not speedily relieved by its
application has however shown the fallacy of this
enthusiastic statement. It is thought by Doct:
Chapman to be equally useful in Hydrothorax,
Anasarca, and Ascites; certain I am the contrary
that I have ^{seen} ~~seen~~ good effect, in Hydrothorax
than in other dropsies; under circumstances espe-
cially favourable. In Hydropericardii: Hamilton
affirms that it will rarely disappoint the ex-
pectations of the practitioner; in this case says
Dr. Chapman I fully coincide - as to the great
efficacy of Digitalis. I cannot dismiss my
remarks on the therap^y application of Digitalis

lates in dropsies without inserting the flattering opi-
nion of Cuius, in its favour; this medicine says he
may almost be said to be possessed of a charm
for its efficacy in some kinds of dropsies; espe-
cially Hydrothorax: its introduction into medi-
cine, is one of the greatest benefits our science
has received in modern times. In organic affec-
tions of the heart and large arteries arising from,
or depending upon hydropic effusions or depo-
sitions impeding the natural functions &c
Digitalis will no doubt considerably alleviate
symptoms and prolong life. The pathology
of hæmorrhage clearly indicates the advantage
in certain states of these dis^{or} to be derived
from the exhibition of Foxglove: I here refer-
ence to those hæmorrhages from internal
organs or what may perhaps be more strict-
ly denominated idiopathic hæmorrhages; pre-
vious to an effusion some febrile irritation



is felt; the pulse quick, hard, and full; but after
effusion has taken and a considerable quantity
of blood lost; the pulse becomes more natural
and less frequent, the force of the circulation al-
though diminished; is still more rapid than
in health, the cause being removed the vessels
are unable to resist the vis a tergo, and a re-
stitution of the attack ensues; to deplete under
such circumstances would be hazardous; at this
critical moment Vigilation is said to act like
magic; and fortunately "Lays Hamilton" it sel-
dom disappoints our expectations; the efforts
pro duce can be kept up until the vessels
shall have regained their power of resistance.
Of its supposed influence over Inflam^y diseases;
and of its surmounting the lancet, I shall say
little; absurd and ridiculous however as this
practice was, it had its votaries among whom
might be ranked Currie and Moseman; the

former state, that he has employed and succeeded
with it in cases of inflammations of the brain, lungs
&c. which he should otherwise have despaired of
relieving; the latter says that pneumoniae inflam-
mations may be overcome by it, with as much
certainty as fevers by barks; these gentleman's ima-
ginations must have deceived their better judg-
ments or there must have existed in this day
patients of such idiosyncrasies as are seldom
to be met with at the present time. In chronic
cases of these affections after sufficient depletion
he had been attended to; Digitalis in small doses
as an alterative would no doubt have had a
beneficial tendency. I shall conclude with a
few remarks upon its application in Consumptions
so much was at one time confided in it that
even the last stages - Ulcerations, Disorganizations,
Hæmorrhages, all its concomitant symptoms; formed
no obstacle to its remedial powers; Broussais says



that he has ^{seen} patients advancing towards recovery
with so firm a pace, that he expects consump-
tion will be cured by Foxglove, with as much
certainty as fever by bark. Drake also states
that he has seen many cases of confirmed ph-
thisis cured by it, and almost all retained life
has even been protracted by it, and when death
has taken place it has been free from pain or
struggle. When the disease is attacked in its in-
cipient stage before fatal expectation has taken
place with due regulation to regimen, diet,
exercise of constitution &c it may, says Pitt
be administered with a prospect of almost in-
variable success; but it has like all other
viscidious limba proveous, and when the sub-
stance of the lungs has become involved it
will like all other remedies prove abor-
tive, this opinion I believe is sanctioned by most
practitioners of the present day; I will only say

spot in conclusion that emanating as the efficacy of Sigilato in the cure of consumption flows from men of such distinction, I think it unequal as trial as a drawn resource in all cases however far advanced or desperate. An appeal must now be made to the generosity of the Professors of this Institution in behalf of this imperfect essay; and I flatter myself; when it is taken in consideration its being the production of a juvenile mind impelled by necessity and not choice the appeal will not be made in vain.

